

Year 1	Multiplication Year 2	Year 3
	<p>Multiplication Objectives (excluding rapid recall)</p> <p><u>Calculations</u> <u>46–51 Understanding multiplication and division</u> 47 Understand the operation of multiplication as repeated addition or as describing an array. Use and begin to read the related vocabulary. Use the \times, \div and $=$ signs to record mental calculations in a number sentence, and recognise the use of a symbol such as \square or \triangle to stand for an unknown number. 47, 49 Know and use halving as the inverse of doubling.</p> <p><u>54–57 Mental calculation strategies (x and \div)</u> 57 Use known number facts and place value to carry out mentally simple multiplications.</p>	<p>Multiplication Objectives (excluding rapid recall)</p> <p><u>Calculations</u> <u>46–51 Understanding multiplication and division</u> 47 Understand multiplication as repeated addition. Read and begin to write the related vocabulary. Extend understanding that multiplication can be done in any order. 49 Recognise that division is the inverse of multiplication, and that halving is the inverse of doubling.</p> <p><u>54–57 Mental calculation strategies (x and \div)</u> 55 To multiply by 10/100, shift the digits one/two places to the left. 55 Use doubling or halving, starting from known facts (e.g. 8×4 is double 4×4). 55 Say or write a division statement corresponding to a given multiplication statement. 57 Use known number facts and place value to carry out mentally simple multiplications.</p>

Year 1

Multiplication
Year 2

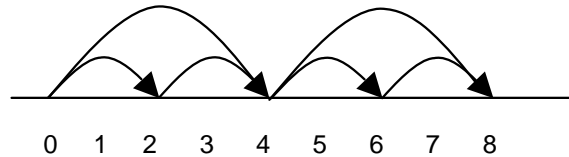
Year 3

x = signs and missing numbers

$$\begin{array}{ll} 7 \times 2 = \square & \square = 2 \times 7 \\ 7 \times \square = 14 & 14 = \square \times 7 \\ \square \times 2 = 14 & 14 = 2 \times \square \\ \square \times \nabla = 14 & 14 = \square \times \nabla \end{array}$$

Arrays and repeated addition

$$\begin{array}{c} \bullet \quad \bullet \quad \bullet \quad \bullet \\ \bullet \quad \bullet \quad \bullet \quad \bullet \end{array} \quad 4 \times 2 \text{ or } 4 + 4$$
$$2 \times 4 \text{ or } 2 + 2 + 2 + 2$$



Doubling multiples of 5 up to 50

$$15 \times 2 = 30$$

Partition

$$\begin{array}{r} 10 \quad + \quad 5 \\ \downarrow \quad \downarrow \\ 20 \quad + \quad 10 = 30 \end{array}$$

then

$$\begin{array}{r|l|l} x & 10 & 5 \\ \hline 2 & 20 & 10 \end{array} = 30$$

x = signs and missing numbers

Continue using a range of equations as in Year 2 but with appropriate numbers.

Arrays and repeated addition

Continue to understand multiplication as repeated addition and continue to use arrays (as in Year 2).

Doubling multiples of 5 up to 50

$$35 \times 2 = 70$$

Partition

$$\begin{array}{r|l|l} x & 30 & 5 \\ \hline 2 & 60 & 10 \end{array} = 70$$

Use known facts and place value to carry out simple multiplications

Use the same method as above (partitioning), e.g. $32 \times 3 = 96$

$$\begin{array}{r|l|l} x & 30 & 2 \\ \hline 3 & 90 & 6 \end{array} = 96$$